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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/555,474

10/02/2006

Ralph-Dieter Maier

1094-41 N PCT US

4054

28249 7590 04/06/2009

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EXAMINER

LENIHAN, JEFFREY S

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

04/06/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/555,474	<b>Applicant(s)</b> MAIER ET AL.	
	<b>Examiner</b> Jeffrey Lenihan	<b>Art Unit</b> 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10/02/2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11/02/2005</u>  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Information Disclosure Statement*

1. The information disclosure statement filed 11/02/2005 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered. The examiner notes that copies of cited references WO 00/11076, WO 02/32985, EP 0483523, and EP 0263718 are not present in the application file.

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 25 and 26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claim 25 contains the limitation

wherein the xylene solubles are determined at 20°C and 5 days settling time if temperature rising elution fractionation is carried out in steps between 40°C and 107°C with xylene as the solvent, or wherein the xylene solubles are determined as the 20°C fraction of the temperature rising elution fractionation if the temperature rising elution fractionation is carried out in steps between 20°C and 107°C with xylene as the solvent,

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The examiner notes that the claim defines how xylene solubles are determined for each recited fraction, and it is therefore unclear what "xylene solubles" the above passage refers to.

5. Claim 26 recites xylene soluble measured in the claimed blend, but does not recite the parameters used to measure the amount of said xylene solubles.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
  2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
8. Claims 1-10, 13-22, and 25-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Agarwal et al, WO 02/32985.

9. Agarwal discloses a polymer blend prepared by blending 50-99.9% by weight of a first polymer component and 0.1-50% by weight of a second polymer component (claims 1, 13, 26, 27) (Page 3, lines 22-24). Said first polymer component may be a

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random copolymer comprising propylene and less than 10% by weight of a comonomer such as ethylene, and is characterized by  $T_m$  greater than 110 °C, preferably greater than 115 °C, corresponding to claimed component (a) (claims 1, 13, 26, 27) (Page 5, lines 5-32). Said second polymer component is a copolymer prepared by polymerizing 65-95% by weight propylene with a comonomer such as ethylene, and is characterized by  $T_m$  in the range of 25-110 °C, corresponding to claimed component (b) (claims 1, 13, 26, 27) (Page 7, line 3 to Page 8, line 18). Agarwal teaches that both polymer components may be prepared using metallocene catalysts (Page 6, lines 23-24; Page 9, lines 24-28), and discloses the use of metallocene catalysts meeting the claimed metallocene formula (claims 10, 22, 27, 28) (Page 10, line 8 to Page 11, line 11).

10. Agarwal is silent regarding xylene-soluble fractions having the recited properties of weight average molecular weight and intrinsic viscosity (claims 2-7, 14-19, 25, 26) melt flow rate at 230 °C and 2.16 kg (claims 9, 21), and ultra low crystallinity fractions (claims 8, 20, 25). As discussed above, however, Agarwal discloses a polymer composition wherein a first polymer component and a second polymer component are combined in the same ratio as claimed components (a) and (b), wherein the first polymer component has a similar melting point and composition of monomers as claimed component (a) and the second polymer component, has a similar melting point and composition of monomers as claimed component (b). Said first and second polymer components are polymerized using metallocene catalysts corresponding to the formula recited in the claims. As the polymer components are prepared from the same monomers, combined in the same ratios, using the same catalysts as used in the

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preparation of components (a) and (b) by applicant, the examiner takes the position that one of ordinary skill in the art would reasonably expect that the polymer composition disclosed by Agarwal would have the same properties as the claimed composition. Applicant is therefore required to provide factual evidence demonstrating that the claimed properties are not present in the composition rendered obvious by Agarwal.

11. Claims 11, 12, 23, 24, and 29-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Agarwal et al, WO 02/32985, as applied to claims 1 and 27 above, and further in view of Fuchs et al, US2006/0167185.

12. Agarwal is silent regarding the use of reactors in series (claim 29), gas phase polymerization (claim 30), the use of hydrogen during polymerization (claim 31), and the specific claimed metallocene catalysts (claim 32).

13. Fuchs discloses a polymer composition comprising a blend of two propylene copolymers, wherein the two propylene copolymers are prepared by polymerizing propylene with different amounts of olefin comonomers (abstract). Said polymer composition is preferably prepared via a multistage polymerization process using a reactor cascade comprising at least two reactors in series as is known in the art (claim 29) (§0046), wherein the polymerization reactions may be carried out in the gas phase (claim 30) (§0047). The polymerization reactions are performed using a metallocene catalyst such as dimethylsilanediyl(2-ethyl-4-(4'-tert-butylphenyl)indenyl) (2-isopropyl-4-(4'-tert-butylphenyl)indenyl)zirconium dichloride (claim 32) (§0079). Fuchs further teaches that it was known in the art to add hydrogen gas to the polymerization reaction

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to act as a molar mass regulator (claim 31) (§090). Fuchs teaches that it was known in the art to use such propylene compositions in the production of films (claims 11, 23) (§0001).

14. Both Agarwal and Fuchs are directed towards the production of compositions comprising a blend of propylene/olefin copolymers. Barring a showing of unexpected results, the examiner therefore takes the position that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Agarwal, according to the process taught by Fuchs, for the purpose of improving the control of the molar weights of the polymer components and improving the mixing of components in the blend and preparing films which could be used in packaging. As the composition of Agarwal is similar to the claimed composition (see above), one of ordinary skill would reasonably expect said film to have the same properties as the film recited in the instant claims (claims 12, 24).

15. Furthermore, as Agarwal teaches the use of metallocene catalysts, the examiner takes the position that it would have been prima facie obvious to modify the teachings of Agarwal by substituting the metallocene catalysts of Fuchs, disclosed to be suitable for the preparation of propylene/olefin copolymers, for the metallocene catalyst of WO 02/32985.

16. Claim 1 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kioka et al, US4822840.

17. Kioka discloses a polymer composition prepared by combining 60-95% by weight of a first random copolymer comprising 86-97% by mol propylene, 0.5-6% by mole ethylene, and 2-13% by mole C<sub>4</sub>-C<sub>20</sub> α-olefin and having a melting point (T<sub>m</sub>) in the range of 115 to 145 °C, corresponding to claimed component (a); and 5-40% by weight of a second random copolymer comprising 10-90% by mole propylene and 10-90% by mole C<sub>4</sub>-C<sub>20</sub> α-olefin and having a melting point of 110-145 °C; corresponding to claimed component (b) (claim 1) (Column 7, line 44 to Column 8, line 19; Column 10, lines 12-19). Kioka discloses that said polymer composition is suitable for the production of films (claim 11) (Column 1, lines 15-30).

18. Claims 2-10, 12, 25-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kioka et al, US4822840 in view of Fuchs et al, US2006/0167185.

19. As discussed above, Kioka discloses a polymer composition comprising a combination of random copolymers corresponding to claimed components (a) and (b) which may be used in the production of films (claims 25, 26, 27). Kioka is silent regarding the use of a metallocene catalyst.

20. As discussed above, Fuchs discloses the use of the claimed metallocene catalysts in the production of compositions comprising blends of propylene copolymers which may be used for the production of films (claims 10, 27-32). Said catalysts are known in the art have high regiospecificity and stereospecificity.

21. Both Kioka and Fuchs are directed towards the production of blends of propylene copolymers which may be used to fabricate films. The examiner therefore takes the



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position that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Kioka by producing the polymer composition of US4822840 using the process/catalyst disclosed by Fuchs, for the purpose of improving the stereospecificity of the polymer components. Furthermore, as the resulting polymer blend comprises propylene copolymer components that are prepared 1) using the same monomers combined in the same ratios and 2) using the same catalysts as described by applicant for the preparation of claimed components (a) and (b), the examiner takes the position that one of ordinary skill in the art would reasonably expect that the composition, and films comprising said composition, rendered obvious by the combination of Kioka and Fuchs would have the same properties of xylene-soluble fractions (claims 2-7, 25, 26) melt flow rate at 230 °C and 2.16 kg (claim 9), and ultra low crystallinity fractions (claims 8, 25).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey Lenihan whose telephone number is (571)270-5452. The examiner can normally be reached on Monday through Thursday from 7:30-5:00 PM, and on alternate Fridays from 7:30-4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James J. Seidleck can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ Irina S. Zemel/  
Primary Examiner, Art Unit 1796

Jeffrey Lenihan  
Examiner, Art Unit 1796

/JL/